

# Springfield 20509

## Georges Mills Road Over Star Lake Outlet

### Public Information Meeting



February 26, 2018

CLD | Fuss & O'Neill

New Hampshire  
**DOT**  
Department of Transportation

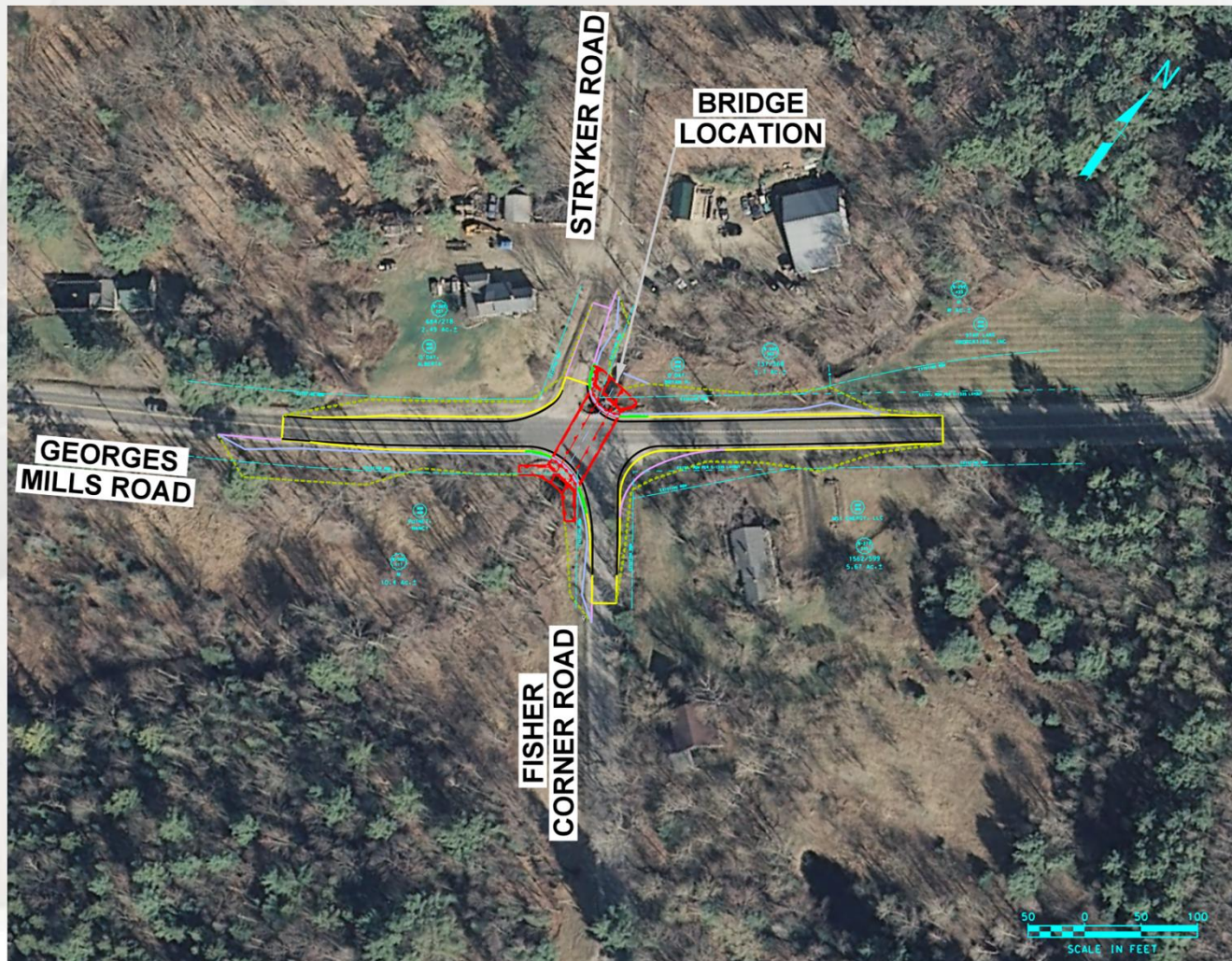


# Project Location





# Project Location





# Site Photos



Georges Mills Road Looking North

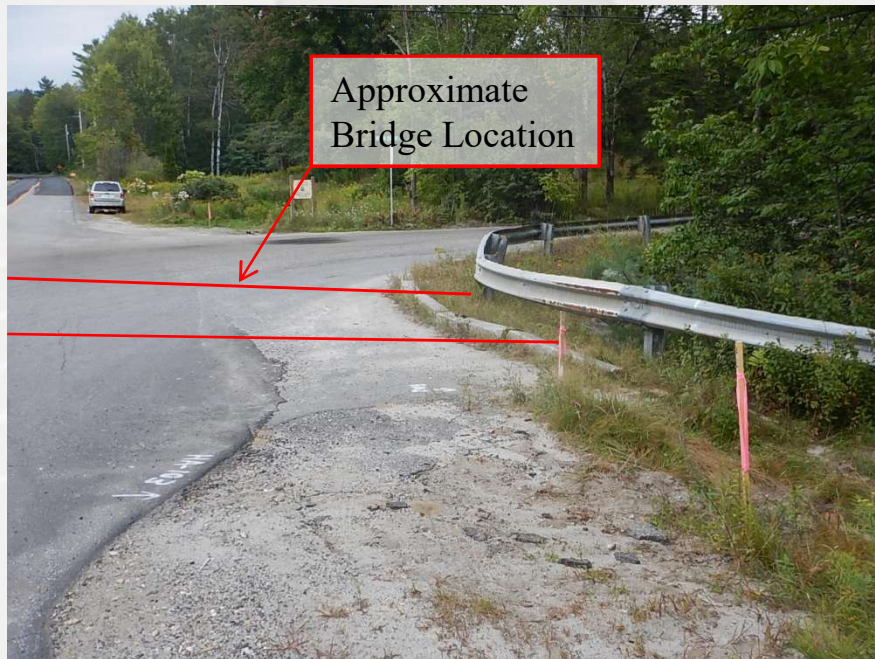
# Site Photos



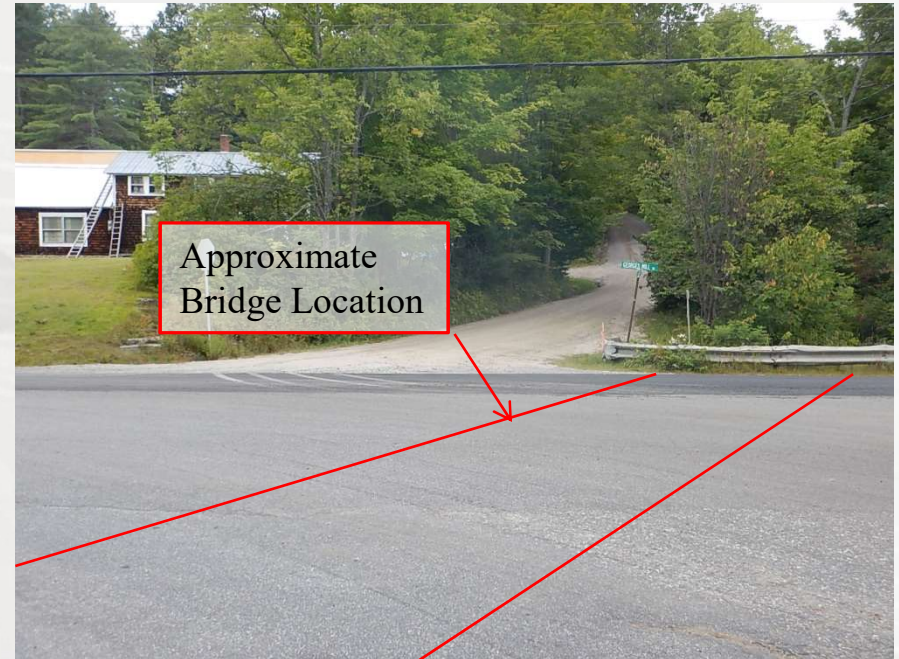
Fisher Corner Road



# Site Photos



Intersection with  
Fisher Corner



Intersection with  
Stryker Road



# Site Photos



Downstream Elevation



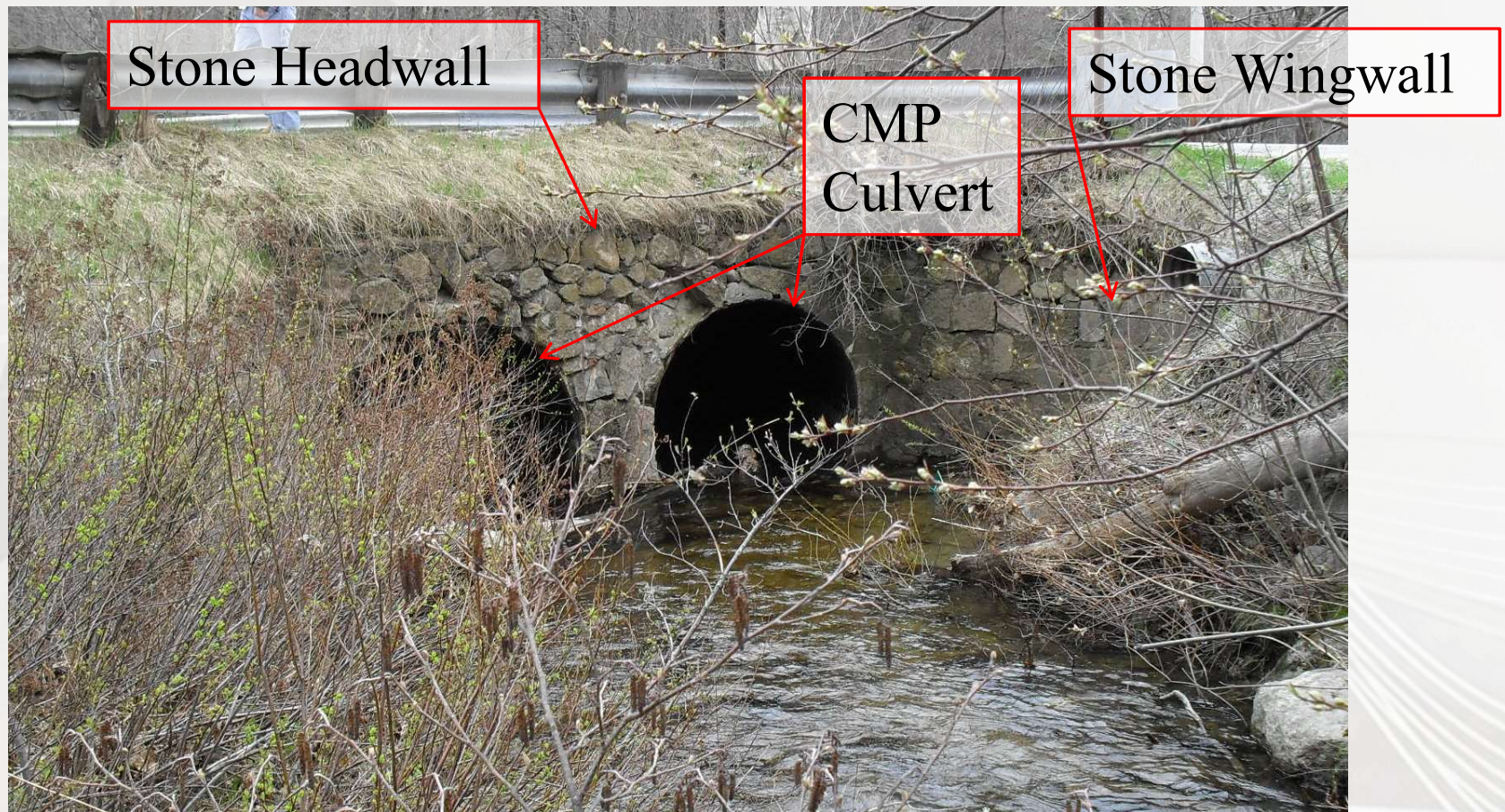
Upstream Elevation

# Existing Bridge

- Twin 5-foot diameter buried corrugated metal pipes built in 1951
- Stone headwalls and wingwalls
- NHDOT inspection report lists the culvert in “poor” condition
- Inadequate hydraulic capacity
- On the NHDOT Red List since 2008
- NHDOT Bridge priority #122
- Carries approximately 1,700 vehicles per day with 7.4% trucks



# Bridge Components





# Inspection Photos



Separation of Pipe Sections



Holes Through Pipe



# Inspection Photos



Pipe Inlets



# Natural and Cultural Resources

- Project has NEPA and Section 106 obligations for potential Natural & Cultural Resource Impacts
  - coordination with Resource Agencies is ongoing
- No Anticipated Historic Impacts
- Interested persons or organizations may request “*Consulting Party*” status from FHWA
- Anticipate Impacts to Star Lake Outlet that will Require Permitting

# Design Considerations

- Structural issues
- Hydraulics
- Environmental permitting
- Bridge proximity to intersection
- Truck turning movements
- Access to businesses, and residences
- Roadway and drainage improvements
- Overhead utility lines
- Maintenance of traffic



# Traffic Control Alternatives During Construction

- Maintain a single lane of alternating one-way traffic (with temporary signals),  
or
- Close bridge and detour traffic, use accelerated bridge construction techniques



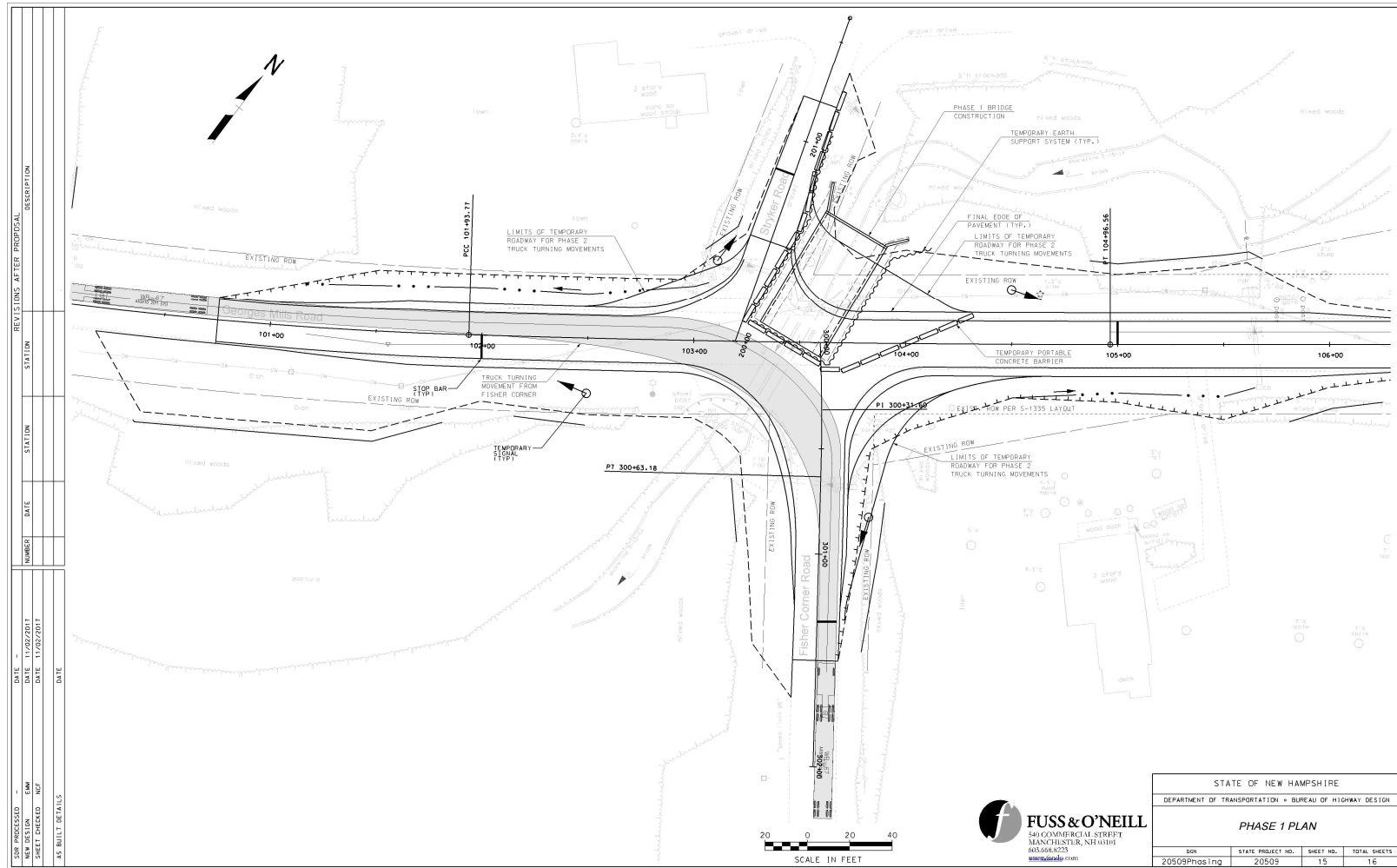
# Traffic Control Alternatives During Construction

## Maintain Single lane of alternating one-way traffic

- Phased Construction, construct one half of bridge at a time
- Maintain one lane alternating traffic on Georges Mills Road, temporary traffic signals
- Maintain turning traffic onto Stryker Road and Fisher Corner Road



# Phased Construction



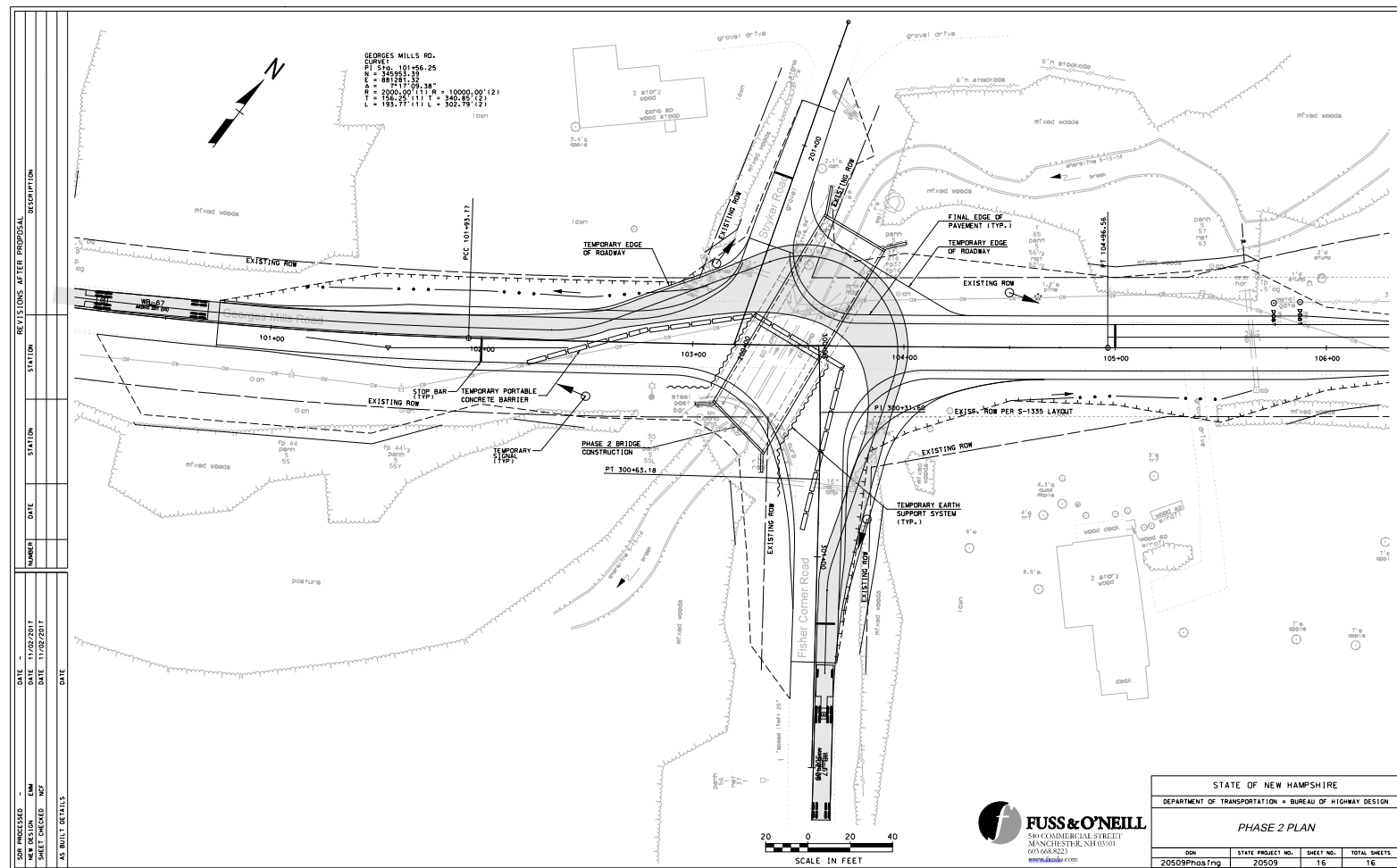
## Phase One Construction

CLD | Fuss & O'Neill





# Phased Construction



## Phase Two Construction

# Phased Construction

- Requires an additional 30-feet of structure length
- Not all turning movements can be maintained
- Less safety for construction personnel and motorists
- Increased environmental impacts
- Increased ROW impacts
- Increased construction costs
- Slower construction
- 14 weeks for bridge construction, followed by two weeks of roadway construction



# Traffic Control Alternatives

## Closed Bridge During Construction

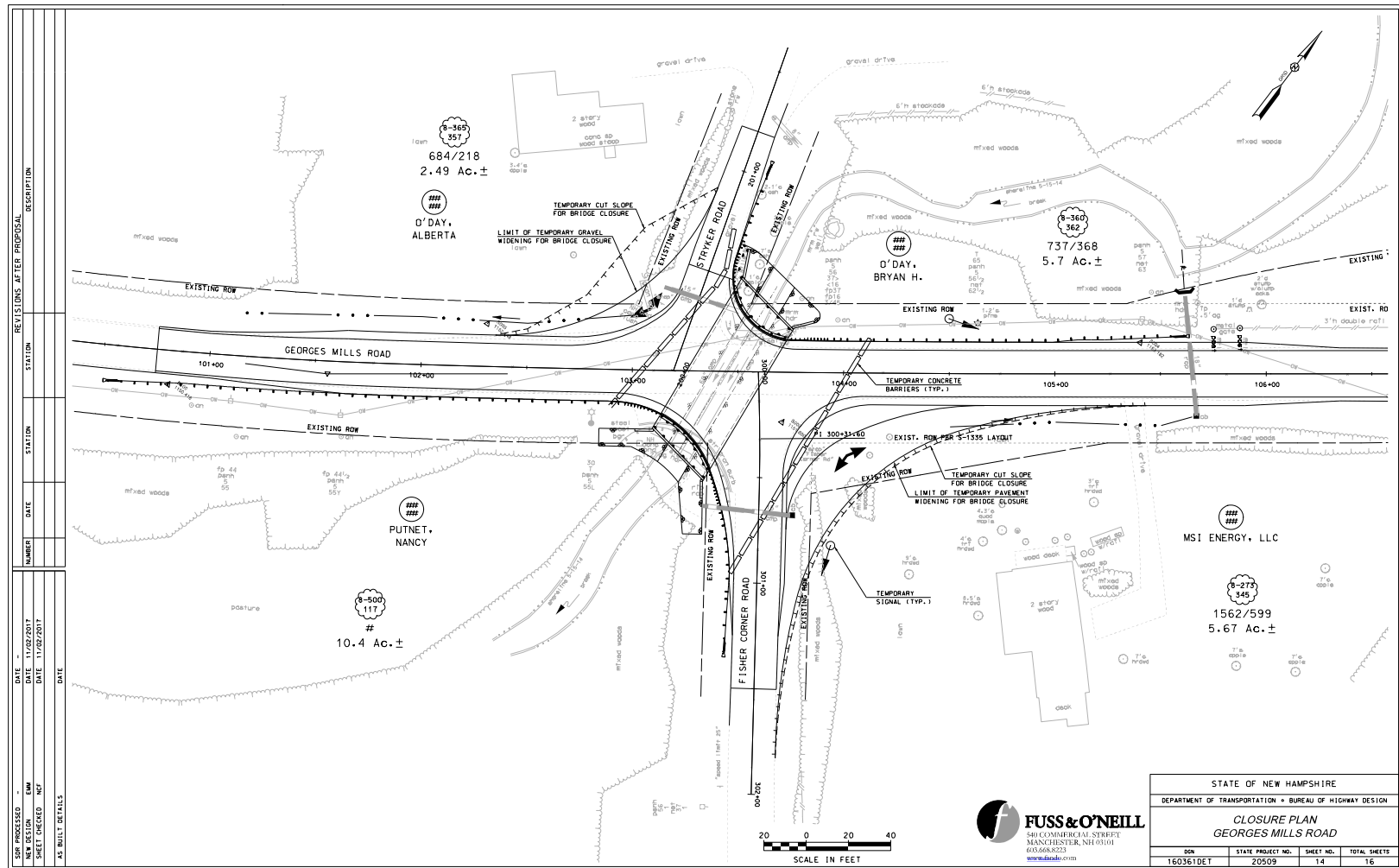
- Requires detour
- Requires coordination with emergency response providers
- Utilize accelerated bridge construction techniques to limit closure duration

# Closure Advantages

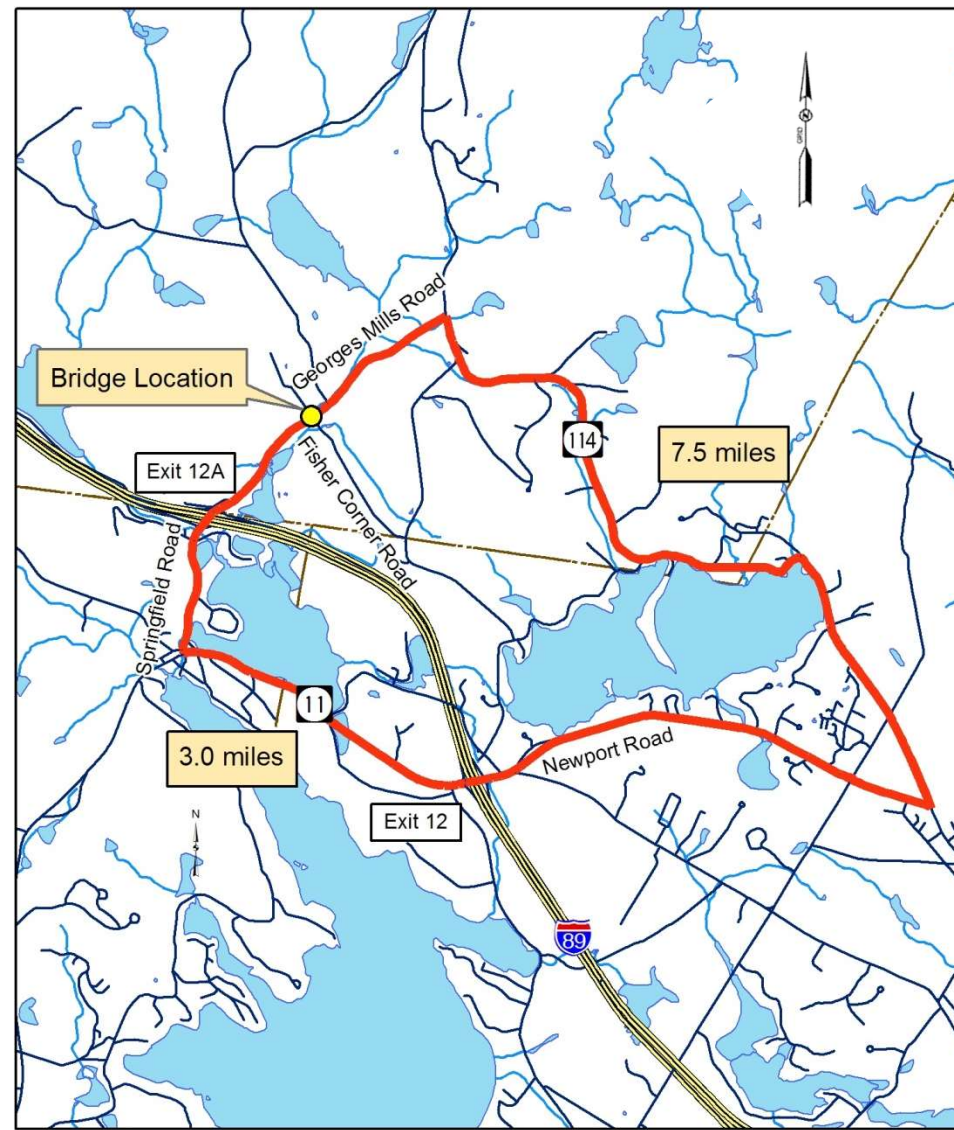
- Most cost effective
- Minimizes ROW impacts
- Minimizes environmental impacts
- Safer for construction personnel and motorists
- Less time to construct
- 3 week closure for box culvert alternative or 4 week closure for rigid frame alternative
- Followed by two weeks of roadway construction



# Bridge Closure

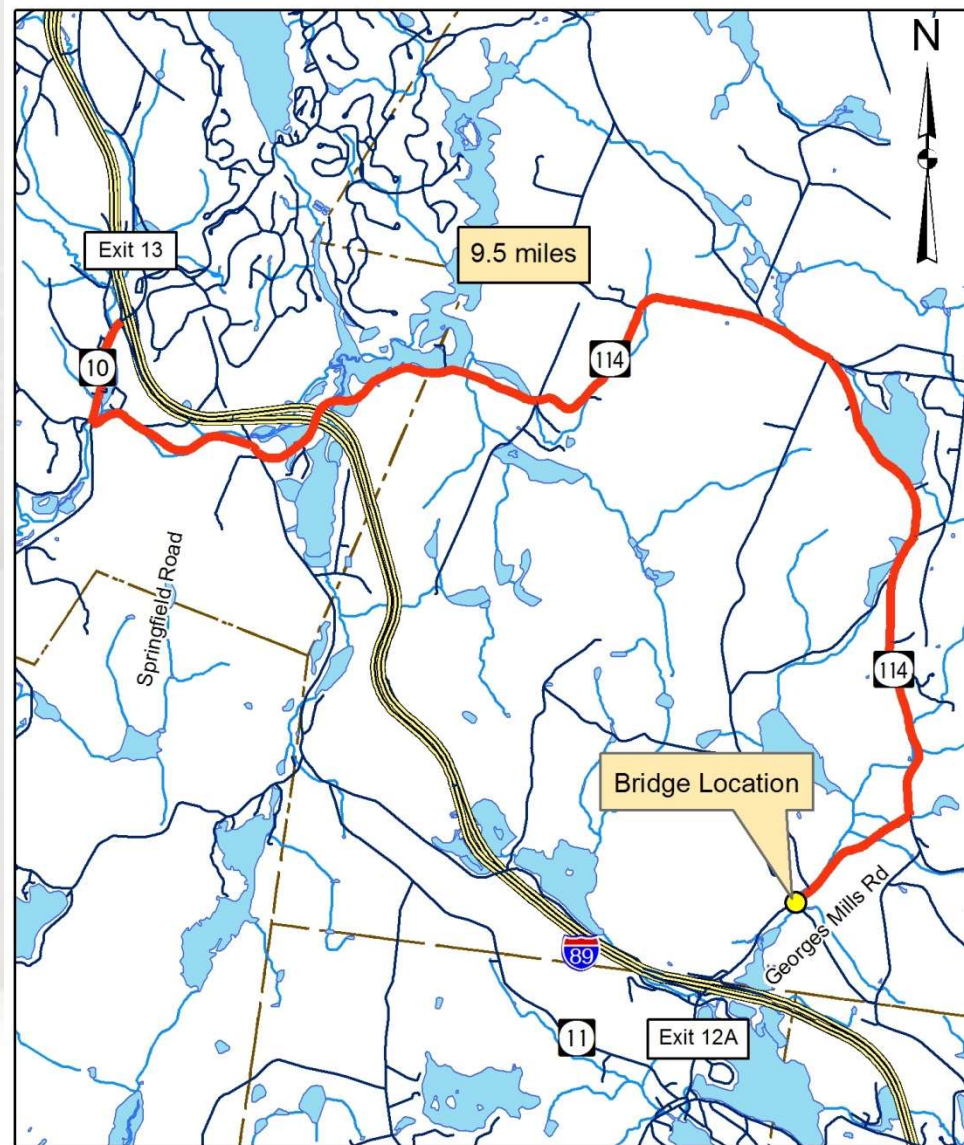


# Signed Detour





# Signed Detour



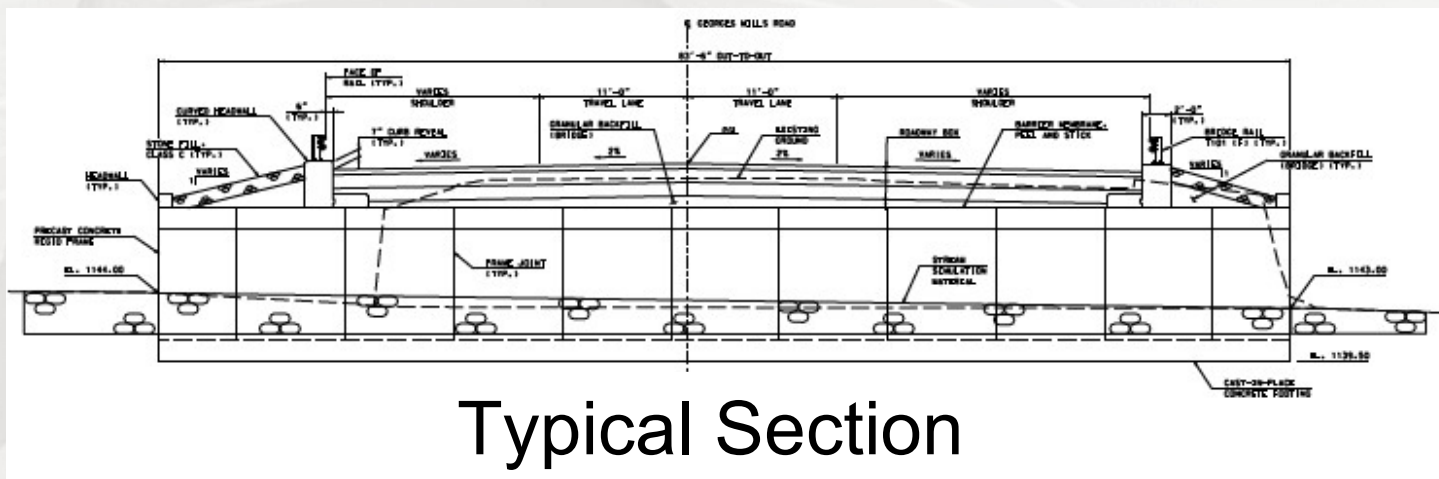
CLD | Fuss & O'Neill

# Bridge Structure Alternatives

- Rehabilitation not feasible due to poor condition, and hydraulic requirements
- Replacement options:
  - Precast Concrete Box Culvert
  - Precast Concrete Rigid Frame

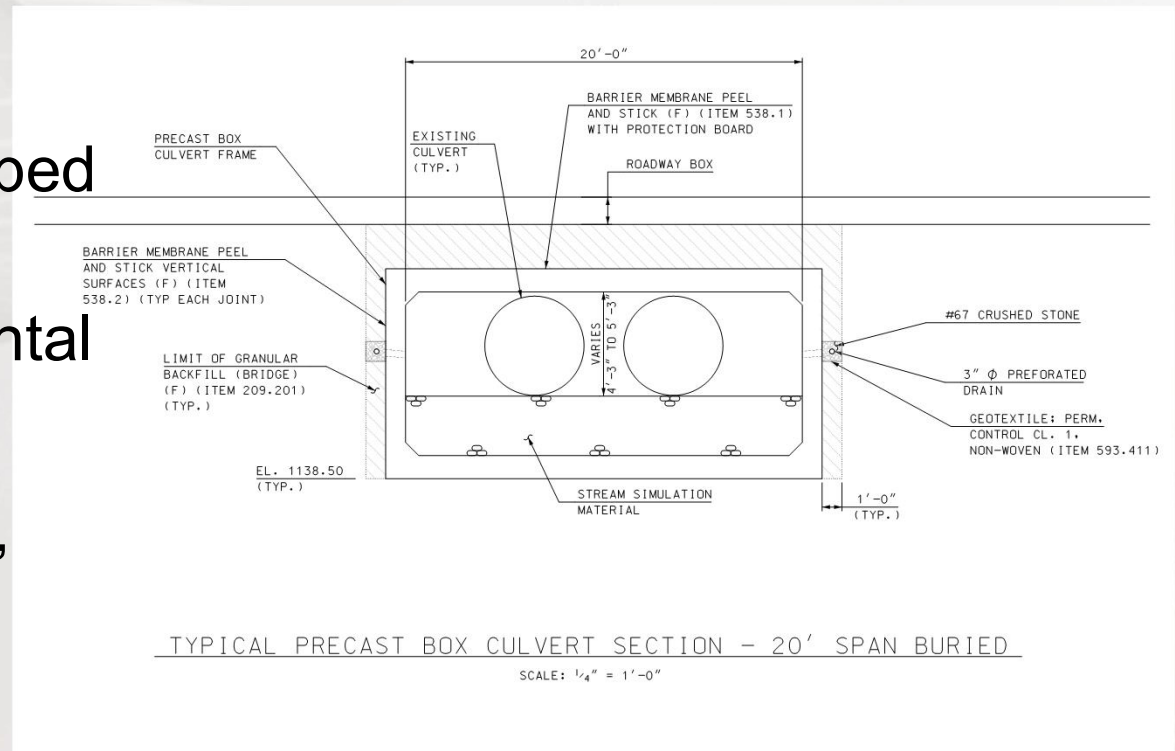


# Bridge Alternatives



# Precast Box Culvert

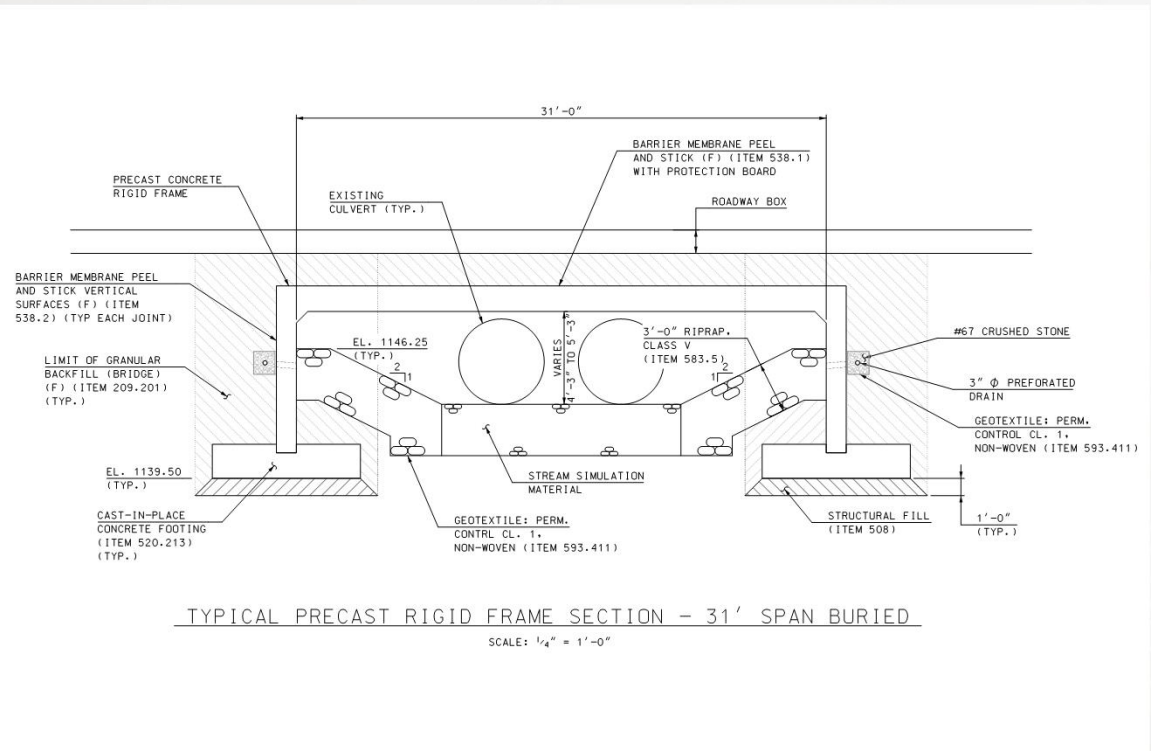
- Buried structure
- 20-foot span
- Simulated Stream bed material
- Difficult environmental permitting process, needs to follow “alternative design” process
- Least expensive alternative
- Quickest to construct



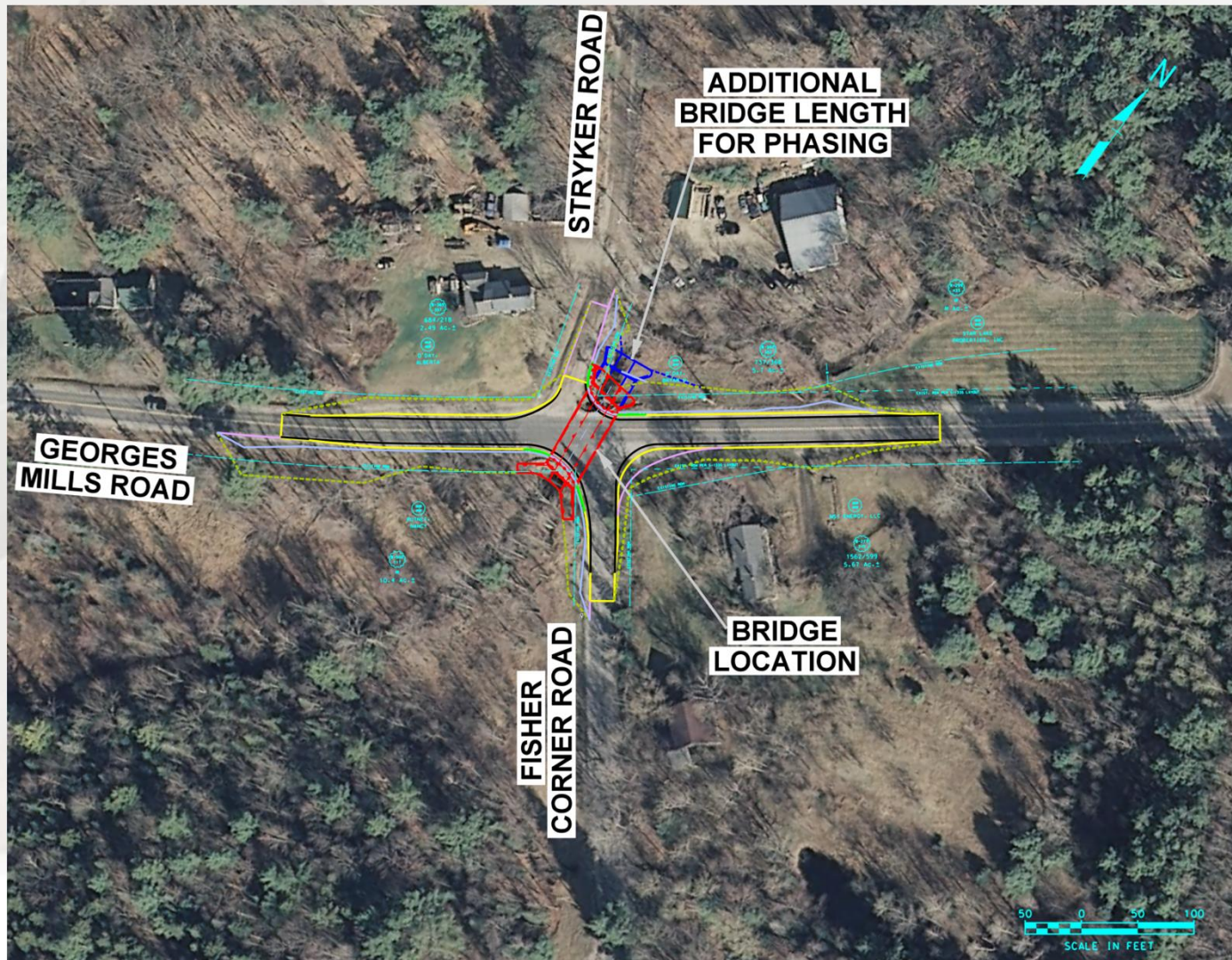


# Precast Rigid Frame

- Buried structure
- 31-foot span
- Precast footings
- Fully compliant with NHDES stream crossing rules



# ROW Impacts





# Next Steps

- Complete Bridge Evaluations
- 2<sup>nd</sup> Public Informational Meeting
- Develop Preliminary Plans
- Cultural/Historic Coordination
- Environmental Permitting
- Utility Coordination
- Right-of-Way Process
- Develop Contract Plans and Documents

# Project Schedule/Cost Summary

- Advertise Project October 2019
- Construction Starts Spring 2020
- Estimated Construction Cost

20' Box Culvert (Closure/Detour) \$1.1 Million  
3 week closure/bridge construction

31' Frame (Closure/Detour) \$1.5 Million  
4 week closure/bridge construction

31' Frame (Phased Construction) \$2.2 Million  
14 weeks bridge construction



# Your Input Is Needed

- Emergency Response Routes
- Mutual Aid from Adjacent Towns
- School Schedule and Bus Routes
- Special Town Events
- History of Flooding
- Intersection Concerns
- Bridge work during low flow time of year, late June, July, August - Concerns
- Other Questions/Concerns

# Thank You For Attending

CLD | Fuss & O'Neill

